

HOW TO BUY A FIBERGLASS POOL IN 2023

Written by Jason Hughes

River Pools
CATCH THE WAVE 



So you're thinking about buying a pool . . .

We're honored to provide these resources to help you in your journey. We know you have many options for your future pool, and we want to help you make the best decision... even if it means sending you to another manufacturer or installer.

We know reputations are hard to build and easy to lose. That's why our business is built around two simple promises:

Honesty and transparency.

We want each step of your journey — from the very first Google search to the last day of construction — to be a positive one.

Of course we want your business... but first, we need to earn your trust.

We are River Pools, an integrated manufacturer, distributor, and installer of world-class inground fiberglass pools. Our reputation has given us the opportunity to expand across North America, with the help of an elite network of independent authorized dealers and installers.

We wouldn't be here without the trust of discerning pool buyers like you... and we'd love to add your story to our ever-growing list of positive testimonials and ratings.

Want to know what our customers think about us?

[Check out our testimonials at this link](#)

If you're still in the early stages of your journey, you might not yet know whether you want a fiberglass pool, a concrete pool, or one with a vinyl liner. Try our new interactive Pool Type Selector quiz app. It's free! Get your personalized results in a few clicks through the link below:

TAKE THE POOL TYPE QUIZ!

Want to skip the reading (can't blame you!) and get a quick-and-easy comparison of the three types? This chart covers the pros and cons of fiberglass, vinyl liner, and concrete pools:

DESIRED QUALITIES OF INGROUND POOLS	FIBERGLASS	VINYL LINER	CONCRETE
Low Maintenance	██████	██████	██████
Speed of Installation	██████	██████	██████
Low Chemical Usage	██████	██████	██████
Smoothness of Finish	██████	██████	██████
Durability	██████	██████	██████
Low Lifetime Cost of Ownership	██████	██████	██████
Energy Efficiency	██████	██████	██████
Attractive and Elegant Look	██████	██████	██████
Beauty of Interior Finish	██████	██████	██████
Factory Controlled Quality	██████	██████	██████
Number of Available Features	██████	██████	██████
Resale Value	██████	██████	██████
Compatibility with Salt Water Systems	██████	██████	██████
Low Initial Cost	██████	██████	██████
Customizable Shape and Size	██████	██████	██████

If you want to make sure a fiberglass pool is your best choice, keep reading. This comprehensive guide is built on decades of experience gained through thousands of successful fiberglass pool installations. If you still have questions after reading this guide... email or call us! We couldn't have created this guide without feedback from pool buyers like you.

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CHAPTER 1: WHAT DOES A FIBERGLASS POOL COST IN 2023?

This chapter will help you calculate a ballpark price for your overall pool project.

Want to skip some of this chapter and get a few answers through video? Here's our video guide to inground pool prices for all three types:



Buying a pool is a lot like buying a house. Your price or cost will depend on many factors, including your location, the size of your yard and the size of your desired pool, and the materials needed to create the pool you want.

A few key considerations:

- The average cost of an inground pool was just over \$40,000 in the U.S. last year.
- Our customers spend \$75,000 on average -- turnkey installations for a River
- Pools fiberglass design tends to range from \$65,000 to \$100,000.
- Prices can vary by up to 50%, based on climate, regional availability, and other factors.

How to plan your pool budget

Most customers want a team of professionals installing their pools. We very strongly recommend working with an authorized dealer and installer, and our budget guidelines will take that into account.

You can break your budget into three categories:

- The base package
- The patio
- Options and accessories

1. How much does the base package cost?

Every contractor's base package is unique.

Some pool builders include only invoice you for the pool shell, its installation, and connection to a filter system. By **only quoting the essentials**, a builder can make your upfront price look as low as possible. This **nearly always results in extra charges and unexpected costs**.

We don't work that way, and I hope the builder you choose will do better, too. But If you want to avoid any unwelcome surprises, you have to **get on the same page as your builder when it comes to these two questions:**

1. Specify every bit of labor and materials you're quoted, and...
2. Get everything in writing!



Here's a checklist of common costs and expenses on a fiberglass pool installation project, which you can print out to keep track of everything and manage your budget:

- Fiberglass pool shell
- Delivery of pool shell
- Water to fill pool
- Pump and filter system
- Pool vacuuming/cleaning equipment
- Cost of retaining wall
- Final grading/landscaping of yard
- Electrical hook-up cost
- Building permit
- Crane fee
- Dirt hauling fee
- Stone or sand for installation
- Pool fence
- Patio cost
- Yard drainage
- Hitting rock during excavation

Will the shape of my pool affect its price?

When talking about pool prices, keep in mind that size (not shape) matters... at least when it comes to calculating your pool costs. On balance, the more total space your pool will occupy, the more it'll cost.

BUDGETING TIP: To calculate a ballpark cost for your base package in most of the U.S., start with about **\$1,000 per foot of pool length, plus \$15,000 to \$25,000**. For example, a **30-foot pool will probably come with a base package of about \$45,000 to \$55,000**. This is only a ballpark estimate — contact your prospective pool builders to get an accurate quote.

2. How should I set my patio budget?

The cost of your pool patio is based on two things:

- Patio square footage
- Construction materials

How big should your patio be?

The average pool patio is between 600 and 1,000 square feet, which provides enough space for several lounge chairs, an outdoor dining set (table and chairs), and walkable areas around the entire pool.

We recommend focusing patio construction on no more than one or two areas around the pool. This often means building next to one or two sides of the pool and leaving thin strips of paved or finished space elsewhere.

How much do patio materials cost?

These are the most common patio materials in 2023. Your costs may differ:

Broom finish concrete	\$8-10 per square foot
Stamped concrete	\$12-20 per square foot
Concrete pavers	\$16-24 per square foot
Natural stone	\$25-35 per square foot

BUDGETING TIP: Most River Pools customers will **spend between \$3,000 and \$12,000 on pool patios**. If you have big dreams for your patio design, **you can easily spend \$30,000 or more**. Get everything in writing!

3. Pool options and accessories

We'll cover pool options and typical price ranges in more detail in the 5th chapter of this eBook.

However, you can start with a **ballpark estimate of at least \$5,000 for any miscellaneous items** you'll want, such as a salt system, pool lights, and a pool cover.

Retaining walls — typically built to hold soil in place in an area of differing ground elevations — will **start in the \$3,000 range**. You may spend **up to \$30,000** to fortify walls your inground pool's walls. **Our customers typically spend between \$7,000 and \$20,000 when adding retaining walls.**

If you don't have a fence that meets any pool-related building codes for your area, you'll also need to shift some of your budget into fencing.

BUDGETING TIP: Aluminum pool fencing is common in most areas. Expect to pay **between \$30 and \$45 per linear foot — \$4,000 to \$6,500 on average** — for a compliant fence.

Ready to price your pool project?

[CLICK HERE TO REQUEST A QUOTE TODAY](#)

Other Pool Pricing Resources:

- [5 Ways to Make Your Swimming Pool Project More Affordable](#)
- [Seasonal Savings and Inground Pools: Is Spring or Fall/Winter a Better Time to Install?](#)
- [Cheap Concrete Pools, the Economy, and Common Pool Buying Mistakes](#)
- [Inground Pool Cost of Ownership: Fiberglass vs. Concrete vs. Vinyl](#)
- [DIY Fiberglass Pools: the Ultimate Project](#)
- [Top 5 DIY Fiberglass Pool Kit Mistakes and Considerations](#)
- [How Much Swimming Pool Patio Do I Need?](#)



Are fiberglass pools too small?

I have a large family with six kids. We have River Pools' 16' x 36' G Series fiberglass pool, and it stays busy all summer long.

We've used our pool to host parties for birthdays, church youth events, and wrestling clubs year after year. For our last pre-COVID wrestling club party, we raised an outdoor movie screen for about **40 parents and kids... everyone who wanted to enjoy Star Wars from the pool had plenty of elbow room.**

Over 1,000 of our customers feel the same way about their fiberglass pools. After all these years in the pool business, I can't recall a single client telling me their fiberglass pool wasn't big enough.

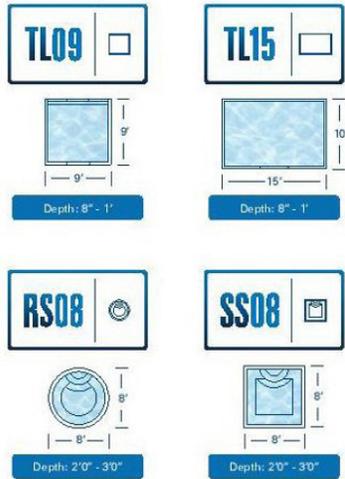
POOL SIZE TIPS:

- Most adults spend more time around the pool than they will inside it. When it comes to entertaining, patio space can be as important as the size of your pool.
- Kids are always happier with a small pool when the alternative is no pool at all.
- The average size of an inground pool in America is 15' x 30'.

You can also check out these articles and videos:

- [Are Fiberglass Pools Too Skinny? Does Width Really Matter?](#)
- [How to Choose the Right Swimming Pool Size for You and Your Family](#)
- [How Do I Choose the Right Fiberglass Pool?](#)
- [Video: How Many People Can Fit in a Fiberglass Pool?](#)
- [What Is the Best Small Pool for a Small Yard?](#)

CHAPTER 3: WHICH FIBERGLASS POOL DESIGN IS RIGHT FOR YOU?



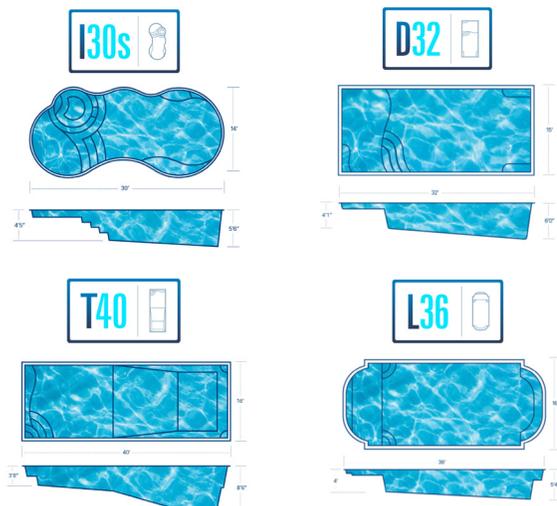
Let's start with two basic questions:

- What features do you want in your pool?
- What shape do you want?

1. What features do you want in your pool?

These features are popular with pool buyers:

- Tanning ledges
- Open swim lane
- Non-skid textures
- Bench seating
- Open play/swim area
- 8' deep end
- Integrated automatic cover
- Integrated steps
- Vanishing edge



Tanning ledges

Tanning ledges have become quite popular with pool buyers because they give you **another way to enjoy your swimming pool experience.**

Adults love **relaxing in a partially submerged chaise lounge** while enjoying a book and/or a tasty beverage. The ledge's shallow water provides more comfort than a hot concrete patio.

Kids can play and splash around in the ledge or use it as a platform from which to jump into the pool. Shallow tanning ledges can also **help younger children acclimate to the water and learn to swim.**



Our L36 tanning ledge.



A tanning ledge on our O30 model



Our D Series tanning ledge.



A custom-built 9' by 9' tanning ledge.



A tanning ledge on our C Series shell.

➤ Bench seating

Bench seats, which are typically integrated into the design of a fiberglass pool shell, provide another space to enjoy quiet moments or hang out with friends and family.

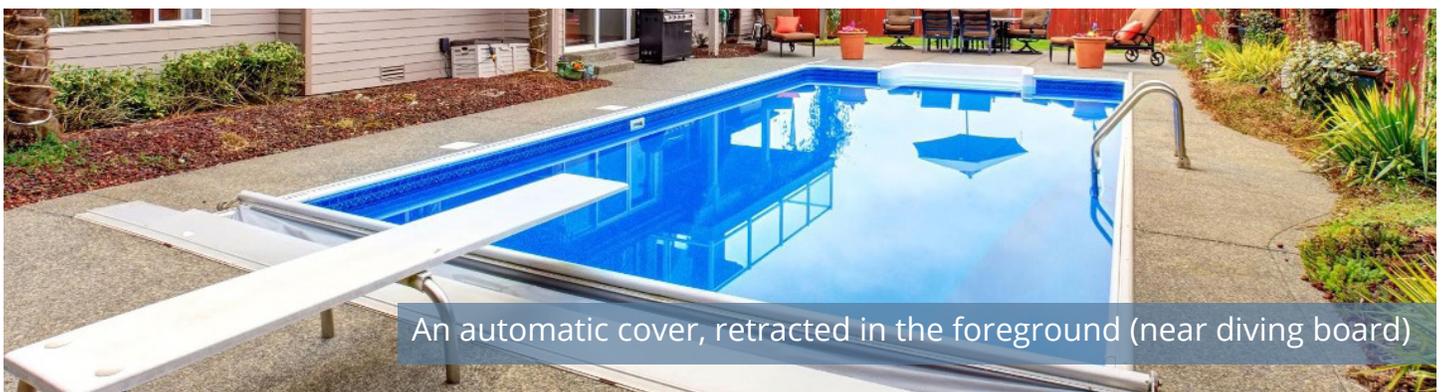
Therapy jets can be built into bench seating areas. Many pool owners enjoy the soothing sensation of therapy jets in their bench seating.



➤ Integrated automatic cover

Automatic pool covers can **roll across the top of a pool with the flip of a switch** to protect the pool's water, walls, and interior features from the elements.

Automatic pool covers tend to work best with straight-edged pools, which allow the cover's tracks to be concealed under the coping edge. **Ask your builder if your chosen pool can use an "under-track" system**, or would otherwise be considered auto-cover compatible.





Open play/swim area

If you just want to get the most bang for your buck, pools designed to offer the largest open “play space” will probably provide what you need.

Rectangular pools typically have the most open interiors. However, **some freeform pool designs** (like our C Series) can **provide ample swimming space** on top of their curve appeal.





Integrated steps

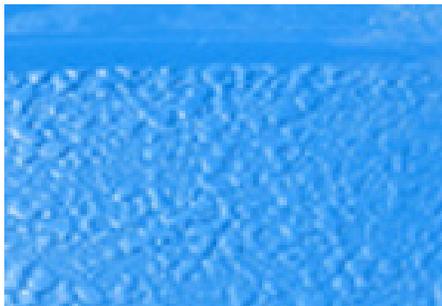
Pools with steps built into their designs provide certain benefits, but some materials allow you to integrate steps into your pool in a more visually appealing way than others.

Our **fiberglass pools include seamless entry and exit points** in their designs.

Vinyl liner pools, on the other hand, **typically require the addition of conspicuous white plastic steps** protruding from the natural footprint of the pool.



Non-skid texture



“All River Pools models use slip-resistant surfaces on steps, tanning ledges, and floors.”

Vanishing edge

A vanishing edge, negative edge, or infinity edge, is a pool perimeter feature that allows water to spill over into a catch basin below your pool patio perspective.

This feature works best on sites or yards with a substantial slope that can be naturally integrated into the pool's construction. Vanishing edge pools can be quite expensive.

If your heart's set on a vanishing edge, you should expect to **increase your pool project budget by at least \$25,000 (and possibly over \$50,000).**



A vanishing edge option for our D Series designs.

2. What shape do you want?

Most pools are classified by one of two shapes:

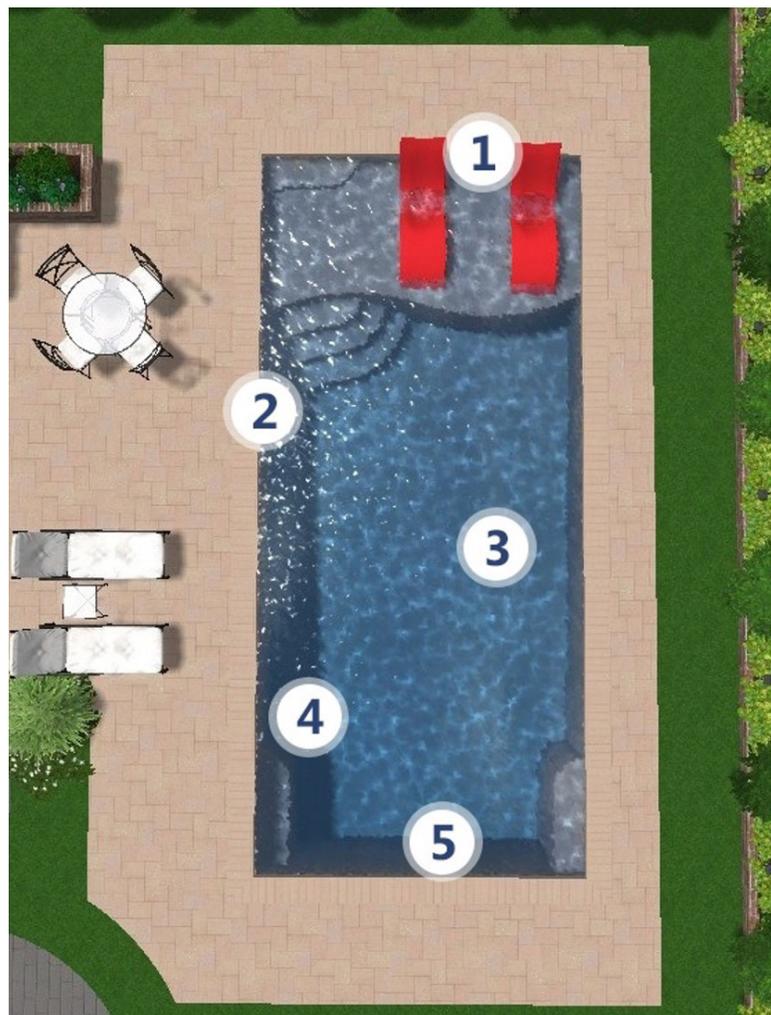
- Linear
- Freeform

Linear pools tend to have either rectangular or “Roman end” configurations.

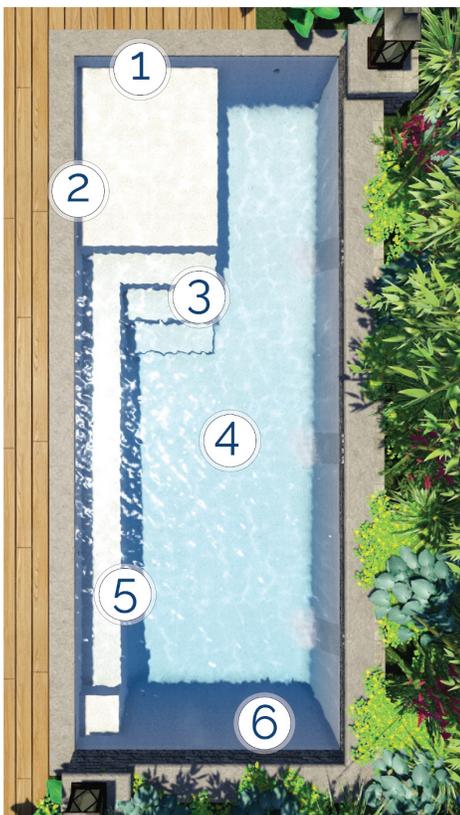
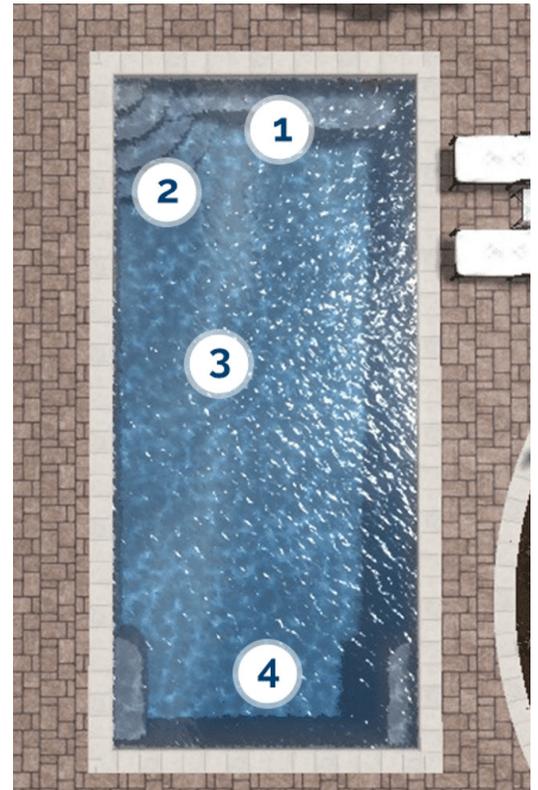
Roman end pools have a distinctive arch at one or both ends. Both types of linear pools are compatible with automatic covers -- you can use an “under-track” system beneath the pool’s coping.

Check out our linear pool designs:

The D Series



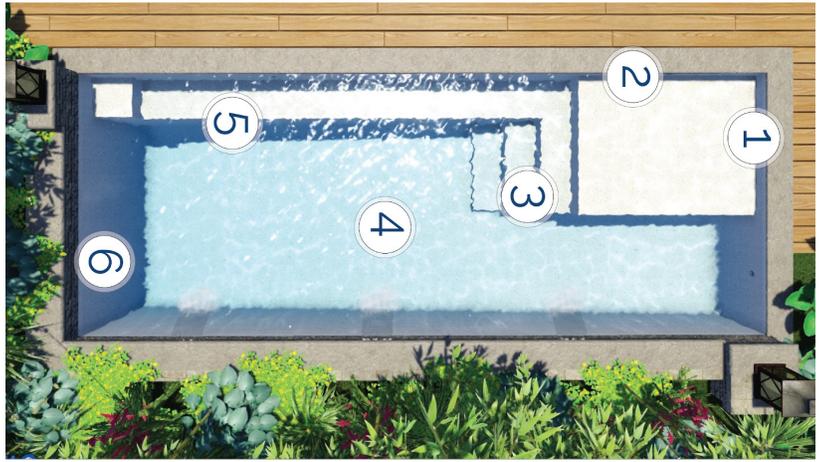
The R Series



The M Series



The T series (T40)



The L Series (L36)



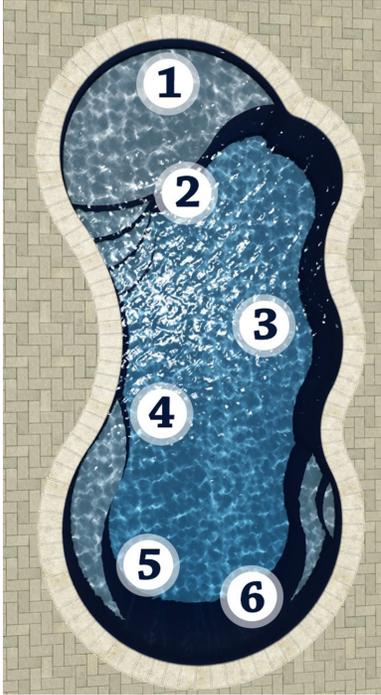
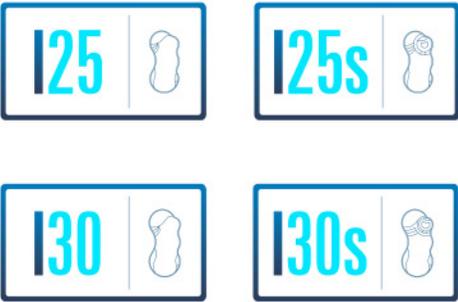
The X Series (X36)



Freeform pool designs

Smaller freeform pools provide **curve appeal, often at the expense of total usable swim space.** However, some freeform designs do offer curve appeal in an optimized swim space.

Our I Series design is a **“balanced” freeform pool shell.** It gives you more open swim space than any other small freeform pool in its class, without sacrificing popular built-in features.



Our C Series design is a **larger shell** that also gives you more space in a freeform design -- it offers **33% more swim space than similarly sized freeform pools,** and it also **includes a tanning ledge and generous bench seating.**



Not sure what design you want in your backyard? Take our Pool Shape Quiz!

FIND YOUR PERFECT POOL SHAPE!

CHAPTER 4: WILL YOUR YARD WORK WITH AN INGROUND FIBERGLASS POOL?

There are a few things we look for when surveying backyards for inground pool installation. Here are two we look for right away:

1. The usable area
2. The slope of the yard

Lack of space is an obvious deal breaker. We also look at the **slope or grade of the yard, which determines whether or not a pool will need retaining walls**, which can have a dramatic impact on the cost and design of the overall project.

BACKYARD TIP: Measuring your yard for a pool? **Contact your local building and zoning office to determine the setbacks** from the property and the house itself. **Ask about easements** or other restrictions on your property that might affect your pool or patio placement. You should also **get any underground utilities marked** (typically by the utility company) so they won't be damaged or get in the way during pool installation.

There are several other factors that can make your backyard a good (or bad) fit for a pool:

Access

An inground pool is often the largest project in any backyard. You're usually hauling tons of dirt out and bringing multiple truckloads of materials in... not to mention the pool shell itself, which needs to get to the yard from the nearest accessible access pathway.

Experienced pool installers can move a fiberglass shell through extremely tight pathways. Don't give up on your pool dreams before talking to installers -- you can also contact us for an assessment at any time!

Watch this video to see how we've navigated tight pathways in the past:



Trees

We're often asked: "How close can trees be to my pool?"

Our general guideline is this: **the underground parts of most trees are often mirror images of the parts you can see above ground.** A tree with widespread branches usually has a more widespread root system.

We take care to preserve as much root system as we can, but sometimes a larger, older tree will have extended its roots throughout your yard. **You ideally want your pool and patio to sit outside a tree's "drip line"** -- just beyond the reach of its furthest branches. This isn't always possible, so you may need to remove some trees to safely and securely install an inground pool.

BACKYARD TIP: If trees need to be removed, **make sure you remove any stumps that might sit within or near your pool** and/or patio area instead of grinding it down. We do ask our customers to cover the cost to haul away and dispose of any stumps that need, but **the end result is a safer and more stable installation**, with no risk of damage to the sides of your pool from dead and decaying root systems.

[Click here to read our detailed FAQ for dealing with backyard trees during your pool installation.](#)

Privacy

There are many ways to guard your pool area from prying eyes.

Privacy fences and landscaping can usually create a screen around your pool. However, keep in mind that although trees and other plants can create an effective visual barrier, they don't do a great job at blocking or muffling noise.

Want an experienced pool professional to evaluate your yard?

[**CLICK HERE TO GET STARTED!**](#)

Other backyard guidelines:

- [What Is the Best Small Pool for a Small Yard?](#)
- [Inground Pool Elevation: How High Should I Set My Pool?](#)
- [Fiberglass Pool Retaining Wall Video: Solutions for a Sloped Yard](#)
- [Inexpensive Retaining Walls for Inground Pools \(Video\)](#)

CHAPTER 5: FIBERGLASS POOL OPTIONS AND ACCESSORIES

Ready for a crash course in pool options?

We'll cover these popular options:

- Pool colors
- Salt chlorine generators
- Pool lighting
- Pool covers (automatic, safety, standard winter, solar)
- Pool heaters
- Waterline tiles
- Automatic vacuum cleaners
- Cascades and water features
- Pool fencing

Pool colors

Most fiberglass pools in America had white finishes in the 20th century.

However, today's pool buyers can choose from a range of attractive and aesthetic fiberglass pool finishes -- including white, which has made a comeback thanks to buyers seeking a mid-century modern look.

Here are our range of pool colors:



River Pools customers can choose the **Arctic Shimmer**, **Caribbean Sparkle**, and **Granite Grey** gelcoat colors at no extra cost -- our other colors are considered upgrades and may cost more.



➤ Salt chlorine generators

Salt chlorinators **convert salt dissolved in your pool water into pure chlorine.** This delivers **excellent water quality without the harsh side effects** of standard chlorine pools, like burning eyes and strong smells.

Salt chlorinators are easy to use. You can maintain proper salt levels by adding salt to the pool water once or twice a season and testing your water regularly.

Low maintenance and exceptional water quality make salt water chlorinators tough to beat. However, because salt water pools can be so easy to maintain, people tend to neglect them.

You won't smell any chlorine, but **chlorine levels can still rise to damaging levels and erode surfaces and equipment.** If you have a salt chlorinator, **test your pool water every week, no matter how good it looks on the surface.** Salt systems for inground pools will **typically cost between \$1,500 and \$2,500 installed.**

After installation, you can **expect to spend less than a hundred dollars a year for pool salt.** However, the salt system's cell (it converts salt to chlorine) usually fails after three to six years. **Cell replacements usually cost \$600 to \$900.** The cost of a replacement salt cell is about the same as it **might cost you to maintain a traditional chlorine pool** over the same time period.



Pool lighting

We're often asked...

1. Are pool lights safe?

As long as they're installed correctly, **pool lights are completely safe**. Most **modern pool lights are low voltage (12 volts)**, compared to older pool lighting, which typically used 120 volts.

2. What color are they?

In fiberglass pools, these LED fixtures are **about as wide as a soda can** and can produce a variety of color options. Most pool lights you might install in 2023 **can be controlled by switches, remotes, or even mobile apps**, and can be customized to shine any way you want.

By default, LED pool lights may cycle through colors when turned on, similarly to some Christmas lights and other modern decorative lighting.

3. How many lights will you need?

We recommend **two lights for pools at least 30' long**. Your pool's surface color can impact lighting effectiveness, as **darker surface colors will absorb more light**. If your pool is longer than 35' and you really want it to pop at night, you might want three lights.

4. How much will they cost?

One LED light tends to cost between \$700 and \$1,000 when fully installed in a fiberglass pool.





Pool covers (automatic, safety, standard winter, solar)

Most of the United States gets pretty cold in the winter months, and pool owners often prefer to use pool covers to protect pool surfaces from the elements. There are four main types of pool covers:

Standard winter cover

\$75 to \$300

Standard covers are **made of tarp-like material and are held down with weighted bags**.

Standard covers will only last 1 or 2 seasons before you'll need to replace them.

Most standard covers hold very little weight. They're simply inexpensive ways to keep sunlight and debris out of your pool -- as long as the cover stays in place.

Standard covers also require a pump, and you'll have to keep an eye on the cover during the off-season, to keep anything from accumulating on top and potentially pushing the cover into the pool. **Standard covers aren't known for stability.** It's common to see standard covers come loose in the offseason.



Security/Safety Cover

\$1,800 to \$4,500 (installed)

Nearly all (95%) of our customers get security or safety covers. Security covers **often look like a trampoline**, with spring-loaded straps anchored to the concrete surrounding your pool. There are two kinds of safety covers: **mesh and solid safety covers**.

Mesh covers allow water to fall through, eliminating the need for a cover pump. On the other hand, **they also allow sunlight through, which can result in algae blooms.** Fiberglass pools are virtually nonporous and as such, it's easier to get rid of algae -- it's usually gone within a day or so after the season's first cleaning.

Mesh covers typically last between 10 and 15 years (several years longer than solid covers), **cost about 30% less than solid covers**, and are **virtually maintenance-free**, which makes them **the preferred choice for most fiberglass pool owners**.

Solid covers will fully block light and debris when properly secured. This can keep your pool cleaner during the offseason. However, because water can't get through, **solid covers require cover pumps** and watchful eyes over the offseason. **Solid covers typically last 6 to 10 years.** A cover pump will typically last 2-3 years, with a **replacement cost of \$200-\$350**.



Automatic covers

\$11,000 to \$15,000 (installed)

Automatic pool covers can be costly, but they have certain advantages:

- Reduce maintenance (easier to keep out debris)
- Safer for pets and small children
- Trap heat at night (warmer water during the day)
- Block unwanted guests and/or critters
- Eliminate the need pool fencing (in some areas)
- Minimize or eliminate pool water evaporation



How long do automatic covers last?

The fabric on an automatic cover **typically lasts between 6 to 10 years**. You can **replace the fabric for an average cost of \$4,000 to \$6,000**.

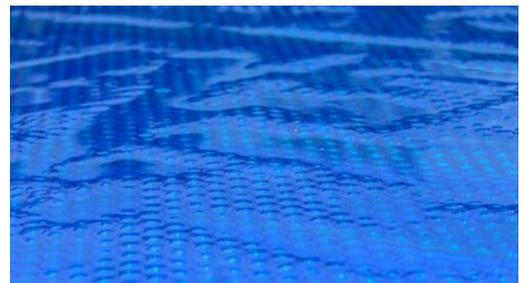
Are there disadvantages to automatic covers?

Automatic covers can be so effective at retaining heat that many customers open the cover some nights to allow their water to cool off. **Pools with auto covers can easily reach water temperatures in the mid to high 90s during midsummer** if you don't cool them off. This can be counteracted by heat pumps with a "cool" setting.

Solar covers

**\$100 (cover only)
to \$1,000 (installed with reel system)**

Solar covers work exceptionally well for one thing: extending the swim season by retaining heat overnight.



On average, the use of a solar cover will **extend your swimming season** by four to six weeks, with half that time extended from the normal start and end of the season.

Why doesn't everyone use solar covers?

They're a pain in the butt. Reel systems are the best way to remove and reinstall the cover, but they span the width of the pool and take up a lot of space.

One common misconception about solar covers is that they're effective at keeping debris out of the pool. Unfortunately, they don't. Debris that collects on the cover still needs to be removed, or it'll end up in the pool anyway. It's just as fast to vacuum your pool.

Swimming pool heaters

There are two common types of pool heaters: **natural gas or propane heaters** and **electric heat pumps**. Pool heaters are generally only used at the start and end of the swim season. These types of heaters **typically cost \$3,000 to \$4,000**, not including any ongoing costs of gas, costs to connect your heater to a fuel source, and the cost of an electrical hookup.

Natural gas or propane

Fuel-powered pool heaters can burn liquid propane (LP) or natural gas (NG) to heat pool water. You'll need a source of fuel, as well as an electrical hookup, to operate a LP or NG pool heater.

These types of heaters **typically cost \$3,000 to \$4,000**, not including any ongoing costs of gas, costs to connect your heater to a fuel source, and the cost of an electrical hookup.



Pros:

- Heats pools fast
- Works in any ambient temperature
- Somewhat less expensive up front than a heat pump

Cons:

- Quite inefficient
- Expensive to operate (generally \$300 to \$800 a month)

Swimming pool heat pumps



Pool heat pumps are **similar to heat pumps used in the home**. They operate by condensing heat from outside air to heat the water.

A heat pump will need an electrical hookup. Because these pumps use electricity to generate heat, their **hookups are more expensive than electrical hookups for a liquid fuel heater**.

On the other hand, **you'll only need to pay for electricity** use, and you'll never need to deal with fuel refills or other related issues. Heat pumps **typically cost between \$4,500 and \$7,000**.

Pros:

- 75% more efficient than gas heaters
- Lower operating costs (usually between \$50 and \$250 a month)

Cons:

- Higher upfront cost to install
- Only works above 55°F
- Heats slowly (can take several days to reach desired temperature)

About **95% of our customers** who opt for powered heating solutions **have chosen heat pumps** because of their reliability and lower operating costs.

If you **want absolute control over your pool's temperature all year round**, and you don't mind a hefty fuel bill, **get a liquid fuel (LP/NG) heater**. If you **want a longer swim season** for the most reasonable long-term cost, **get an electric heat pump**.

Waterline tile

\$2,700 to \$3,500



Waterline or perimeter tile is ceramic or glass tile fixed to the surface of a fiberglass pool with waterproof silicone adhesive. The adhesive and its accompanying silicon-based waterproof grout will allow waterline tile to flex and move with the pool shell.

Is waterline tile required on fiberglass pools?

Fiberglass pools don't need waterline tile to prevent staining, as concrete pools do. However, many pool buyers like waterline tiles for the **added aesthetics**.

Pros:

- Aesthetics
- Minimizes or reduces age-related surface dulling

Cons:

- Lifespan of 7 to 10 years
- Replacement tile tends to cost \$3,500 to \$4,000



Water features can make a pool pop... and they don't (always) need to cost a fortune to do so. Here are some popular features our customers often add to their pool projects:

Cascade waterfalls

\$900 to \$2,000



Cascades are beautiful and affordable, don't take up any patio space, and add the calming sound of falling water to your pool experience. Waterfalls are controlled through your pool's filter system and can be installed in a range of lengths.

Bubblers

\$450 to \$750 each



Bubblers are basically inverted waterfalls. Water flows upwards instead of downwards.



Deck jets



Custom poolside water features

Prices vary (\$2,500 to \$25,000)



Poolside water features, like elevated waterfalls or decorative walls, can elevate your pool and make your backyard the envy of the whole neighborhood.

Fire bowls and firepits



Combining fire and water with a well-balanced design is another great way to elevate your aesthetics.

Fire bowls typically range from **\$5,000 to \$8,000 when installed with your pool**. Quality fire pits often **start in the \$2,500 range** and can add up quickly as they become more complex.

Spas, wet decks, and wading pools

Poolside spas, wet decks, and wading pools can be fully integrated into your design to create spillways or waterfall features that drop into the main pool. You can also install them separately in a different part of your yard or patio.

These types of **functional water features can cost anywhere from \$6,500 to \$35,000**. The cost of the feature can rise quickly if you want it installed at a higher elevation and/or with premium materials.



Pool fencing



The **most popular pool fencing** is made of powder-coated aluminum. This sleek low maintenance product is perfect for pool projects that don't require privacy fencing.

Most aluminum fencing is black, but you can also get them installed in **white, green, and copper** colorways.

Aluminum fencing typically costs between \$30 and \$45 per linear foot.

PVC fencing can also be a viable option, especially if you need a fence that's at least 6 feet tall. PVC is durable and relatively low maintenance. **PVC privacy fencing will typically cost between \$35 and \$55 per linear foot.**

Wooden and chain link fencing are your most budget-friendly options. However, wood fencing **requires much more maintenance** than aluminum or PVC. If you want chain link fencing, **check your local fence codes** -- standard-sized diamond openings won't meet the code for most areas.

Wooden and chain link fencing can cost between \$20 to \$30 per linear foot.

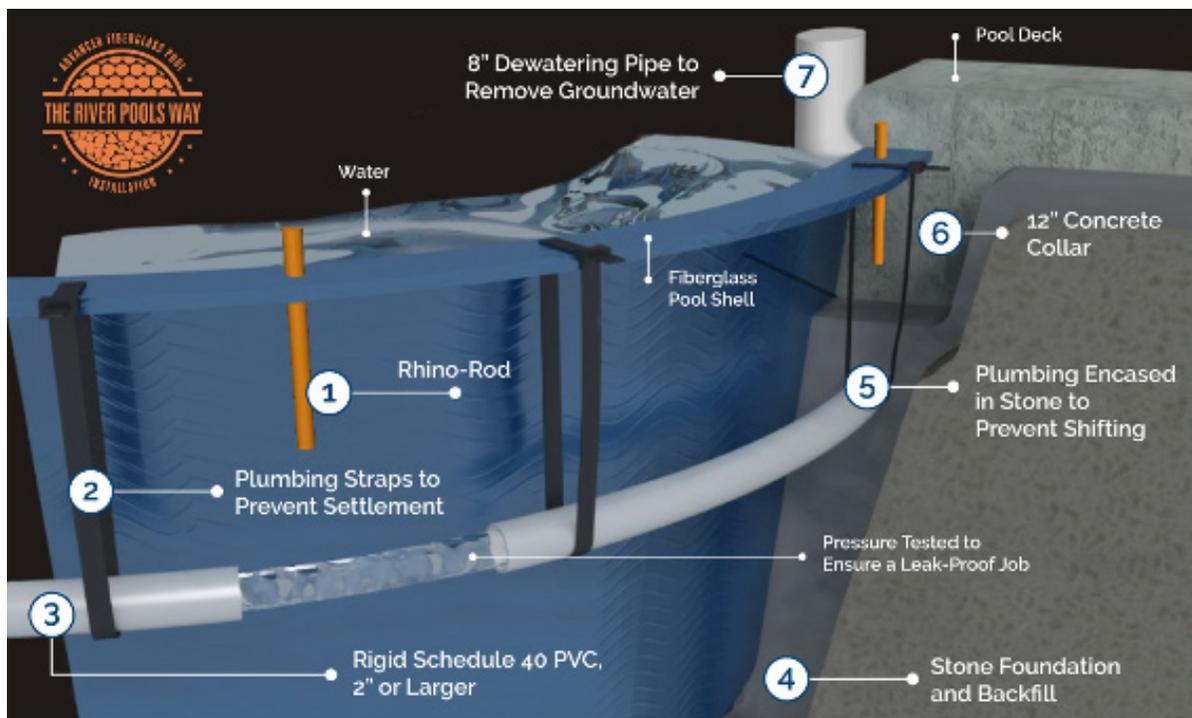
CHAPTER 6: INSTALLING A FIBERGLASS POOL THE RIGHT WAY (THE RIVER POOLS WAY)

Our installation methodology has been developed over thousands of projects. When done right, it can **eliminate the most common fiberglass pool installation problems.**

River Pools began as an installation company. **We've installed thousands of fiberglass pools since 2001**, and we always strive to create a great experience and give our customers peace of mind with an installation that stands the test of time.

We've been recognized as leaders in the fiberglass pool installation industry and have earned a place as **one of the Top 50 Pool Builders in America.** We're often invited to teach fiberglass pool installation courses at national and regional industry trade shows. **Millions of folks like you have read or watched our fiberglass pool installation articles and videos** -- we want you to see how it all comes together, from the factory to your backyard, and our brand reflects that commitment.

We developed our process after following "industry standards," which led to unacceptable rates of failure in our early projects. **Now, the River Pools Way is the industry standard for fiberglass pool installation.**



The River Pools Way: Advanced Installation

The River Pools Way can virtually eliminate the biggest issues with fiberglass pool installations:

- **Pool shell settling or shifting**
- **Plumbing leaks in lines and around jets or other pool fittings**
- **Separation between pool and patio**
- **Bulges in side walls**

How it works:

1. Our “River Rod” fuses pool shell and patio

We developed the River Rod to fuse pool shells and patios together. This helps prevent shifting, settlement, or any other kind of movement that might weaken the structure and eventually cause it to fail.

The River Rod is a 12-inch-long composite rod installed into the top of every pool shell.

At the end of the installation, we encase the River Rod in concrete poured around the pool.

You can see how River Rods work in the video below:



2. Plumbing straps secure plumbing to pool shell

Movement is a major cause of leaks in a pool's plumbing.

When pipes shift, they can start a chain reaction that stresses the pipes, plumbing connections, and any components the plumbing's attached to, like jets, skimmers, or drains. **We secure pipes to the pool shell with a strap system to minimize stresses on any part of the plumbing system.** [Read our article on perfect fiberglass pool plumbing](#) (click the link) for more details.

You can also watch our video on plumbing straps by clicking the image below:



3. Schedule 40 PVC hard pipe

There are **two types of plumbing pipe used in pool installations: hard pipe or flexible pipe** ([click here to read a detailed breakdown on the two types](#)). We only use hard pipes. This type of pipe requires a bit more effort to install ([click here to see how we do it](#)), but hard pipe is the only type rated for underground use.

4. Crushed or chipped stone backfill material

Backfill is the term we use for material spread underneath and around the outside of our pool shells after they've been set into the ground. **Clean backfill stone can be critical for a fiberglass pool's long-term integrity.**

Many pool installers use sand as backfill. The problem with sand is it tends to liquefy when it's saturated with water. **Sand backfill can create some major issues over time:**

- **Settlement of the pool shell**
- **Plumbing leaks**
- **Bulges in side walls**

We found that these problems went away almost immediately once we began using only clean crushed stone for backfill material. **Stone drains better, doesn't move, and doesn't change its physical properties when wet.**

More detail on backfill:

- [7 Deadly Sins of Fiberglass Pool Installations](#)
- [How Much and What Type of Stone Is Needed for a Fiberglass Pool Installation?](#)
- [Installing a Fiberglass Pool Properly: Sand vs. Stone, Which Is Better?](#)

5. Plumbing encased in stone to prevent settling

Good stone backfill doesn't move or settle. Your pipes will stay safe! ([Click here to read more.](#))

6. 12-inch-thick concrete bond beam around perimeter of pool

All inground fiberglass pools need some concrete around their perimeters for stability.

We pour this concrete bond beam so it's **thick enough to flow underneath the lip of the shell and encase the River Rod.** This keeps your pool and patio structurally secure for many years.

7. Sump pipe for monitoring and removing ground water

All fiberglass pools need to be drained at some point, even if it's decades after installation. You'll need to be able to get rid of any groundwater around the outside of the pool shell before draining to prevent damage. **We install sump pipes so you'll be able to do this easily.** We recommend working with a professional to drain your pool safely -- [click here to find out why.](#)

Prevention Is the key!

Pool problems tend to be connected -- one issue typically creates more problems

A settling pool can cause leaks. Unwanted water from these leaks can cause more shifting and movement, starting a chain reaction that might wreck your pool if the root problem isn't quickly addressed.

The River Pools Way helps us anticipate and prevent these "cascade failures." It's a better outcome for you, and it's a better outcome for us.

[TALK TO RIVER POOLS TODAY](#)

Fiberglass pool installation process

1. Excavation
2. Setting and leveling
3. Plumbing (pool and filter system)
4. Backfilling the shell
5. Coping and patio

Phase 1: Excavation



The first thing we'll do is **"paint" the pool on the ground** and **use a laser level** to establish how high to set the pool in the yard. **This tells us how deep to dig.** A dump truck will be moved close to the hole if needed before excavation begins.

One crew member digs the hole while the others set up the pump and filter system. **Excavation can take anywhere from three hours to a day and a half,** depending on the hole's size and how long it takes to dispose of the dirt.

The excavated hole will be about a foot larger (wider and longer) than the pool, and two to four inches deeper than the depth of the shell.

When will the pool shell arrive?



The shell usually gets to your house around midday on the first workday, but it can vary based on your location (how far your home is from our factory and/or dealers). When the shell arrives, **our team unloads it with a crane or excavator** and will begin installing fittings and plumbing around the pool.

More detail on the installation process:

- [7 Deadly Sins of Fiberglass Pool Installations](#)
- [Swimming Pool Excavation: 4 Questions You May Not Think to Ask](#)
- [Inground Pool Elevation: How High Should I Set My Pool?](#)
- [Can Fiberglass Pools Be Built on Fill Dirt?](#)

Phase 2: Placing the gravel foundation

After excavation, we add a two to four inch layer of gravel to the hole on which the pool will sit. The **gravel base determines the pool's height** -- we use a laser level for perfect elevation. This **usually happens by the end of the first day** of construction, or near the start of the second day.

We use gravel instead of sand for our installations. We already discussed this in an earlier section, but let's look at it from a slightly more technical standpoint for a moment...

When we were starting out as pool installers, **our first 250 pools used sand backfill...** and some developed problems. **We eventually figured out these issues were all sand-related.**

Because **sand liquefies when saturated with water**, pools filled with literal tons of water tend to be somewhat less than ideally stable when their surroundings turn into a liquid bed.



It's also nearly impossible to completely compact sand during installation so it becomes as dense as possible. Sand backfill can take up to 18 months to fully settle and compact, which puts pressure on the side walls of the pool and any encased plumbing. **The weight of saturated sand on sidewalls can cause them to bulge inward**, and can also put pressure on plumbing until it begins to leak.

You can see why we use stone backfill these days.

Once we've added stone gravel to the excavated hole, we prepare to set the pool.

We typically use our excavator or a crane to unload and set the pool shell. Some of our most interesting deliveries have involved floating pool shells down rivers, pushing them through narrow alleys, or even flying them into someone's yard with a helicopter!

No matter how the pool gets into your backyard, it has to be properly set in the hole and leveled.

Why is properly setting and leveling the pool so important?



The entire pool floor must rest on a solid foundation to keep it structurally sound and prevent shifting and settling over time. Our crews aim to get your pool to within half an inch (or less) of level or less, while ensuring its entire floor is firmly on its foundation.

It's important for all prospective pool buyers to **understand that fiberglass pools are never perfectly level. Our goal is leveling within a half-inch or less**, which is significantly **more precise than industry standards** that aim to get your pool within an inch of complete level. Unfortunately, many installers leave projects more out of level than this "standard."

Our teams may lift and re-set your pool shell as many times as needed to achieve its best possible leveling. Many installers try to rush this critical phase of the process, which causes all sorts of problems, many of which connect to issues we've covered elsewhere in this eBook.

We usually complete this leveling process by the end of the first or second day of the installation project, but some backyards can require more attempts than others.

Learn more about foundations and leveling fiberglass pools:

- [Sand vs. Gravel: Which Is Better for a Fiberglass Pool Installation?](#)
- [How Level Should a Fiberglass Pool Be?](#)
- [Read about our Level Pool Promise Here](#)
- [How to Unload, Lift, and Set a Fiberglass Pool \(Video\)](#)

➤ Phase 3: Plumbing the pool and filter system

A pool's filter system has two major components: the **pump** and the **filter**.

The **pump** circulates water, while the **filter** removes debris and small particles from the water.

Many filter systems have other elements as well, such as flow control valves, salt chlorinators (if you've opted for a salt system), lighting switches, and heaters.

Where is the filter system typically located?

Filter systems are usually installed within 30 to 60 feet of the pool, but some systems can be installed at much greater distances. It's **usually best to install powered pool equipment like filter systems at or next to your house**, preferably in an inconspicuous setting. Many pool owners opt to install their equipment in their yards, somewhere out of sight.

More about pool filter systems and equipment:

- [5 Keys to Perfect Fiberglass Pool Plumbing](#)
- [How to Install Skimmers, Returns, and Main Drains](#)
- [Where Should I Locate My Pool's Pump and Filter System?](#)



Phase 4: Backfilling the pool shell



Once plumbing is done, and the pool shell is set and leveled, it's time to **fill the pool with water** and **backfill the perimeter with gravel**.

Gravel and water must be added together to equalize pressure inside and outside the shell.

We also install a drain pipe during this phase. The drain pipe is an 8-inch PVC pipe extending from the top of the patio to the bottom of the excavated hole. **This pipe gives pool professionals access to any ground water around the pool**, if (or when) your pool requires draining in the future.

Electricians will typically have started wiring pool equipment by the time we begin the backfill process. We prefer to have pump and filter systems wired before backfilling, so water can circulate as soon as possible. This isn't always possible, but it's our standard approach.

Our crews should **have your pool shell installed, full of water, and connected to completed plumbing work**, by the **end of the second or third day** of construction.

The next step, **coping and patio work, needs to start with an inspection.** We also install waterline tile at this point, if you want it -- unless it's already been installed prior to delivery.

Related articles:

- [How Much and What Type of Gravel is Needed with a Fiberglass Pool Installation?](#)
- [How Not to Backfill and Install a Fiberglass Pool... Scary Pictures!](#)



Once the pool's completely backfilled and inspected, our team can install coping around the rim of the pool shell and the pool patio. The patio crew may start work anywhere from a few days to two weeks after backfilling, depending on weather and inspection schedules. **Patio construction usually takes between two and five days**, depending on its size and the materials used.

Cantilevered concrete coping basics

It's important to **have an experienced contractor pour your cantilevered concrete coping**.

Check out some of our coping guides, which will show both good and bad outcomes, so you can better understand why we value a contractor's experience so highly for this phase of the work:

- [How to Form and Pour Cantilevered Concrete Coping \(Video\)](#)
- [Why Is Pouring Concrete Cantilever Coping Around a Fiberglass Pool So Difficult?](#)
- [How NOT to Install Paver Coping on a Fiberglass Pool \(Video\)](#)

In a nutshell...

If you take nothing else away from this section, please **keep the following five takeaways in mind** if you're considering or starting a fiberglass pool installation:

1. **Installation usually takes three to six weeks for most fiberglass pool projects, from beginning to end.**
2. **The material used to backfill the pool is critical. We use clean, crushed stone.**
3. **Proper setting and leveling of the pool shell is critical if you want your pool to look and work great for a long time.**
4. **Connections between the pool and patio are vital. We use composite River Rods to fuse the pool and patio together.**

Want more fiberglass pool installation info? Check out our article in Aqua magazine:

[Top 5 Fiberglass Pool Installation Problems and Solutions](#)

CHAPTER 7: FINANCING A POOL PROJECT

Most pool buyers finance their pool projects. This tends to work similarly to financing other major home improvement projects, but if you'd like all the details, or are new to this type of project financing, we've got you covered in this chapter.

Most pool projects are financed through one of the following ways:

- Home equity loan/line of credit
- Second mortgage
- Credit card
- Unsecured loan

You can also pay for the project out of pocket if you have enough available cash, but today's **super-low interest rates might make financing a more appealing option.**



POOL FINANCING TIP: Planning to finance the bulk of your project? Get pre-approved before asking **pool builders for estimates.** Many prospective pool buyers find out they can't secure the financing they need after they've already spent a ton of time planning their projects.

Home equity loans & second mortgages

The **most popular** forms of **pool project financing** are **second mortgages** and **home equity loans or lines of credit**, which allow homeowners to borrow against the equity in their properties. These loans are **relatively easy to obtain** and **tend to offer competitive rates.**

Unsecured loans

If second mortgages or home equity loans aren't an option, **you may be able to get an unsecured loan.** This type of loan isn't secured by your home equity (or anything else), so **lenders will want to see a strong credit score.**

The **details of pool loans** -- such as interest rates, available amounts, required credit scores, and other specific considerations -- **change all the time.** The best way to get up-to-date information would be to check out our [Pool Loans 101 resource \(click the link\).](#)

CHAPTER 8: COMMON MISTAKES TO AVOID WHEN BUYING A POOL



Mistake #1: Not getting everything in writing

Let's say your builder just started excavating the hole for your pool. Later that day, they knock on the door to ask how you'd like to pay the dirt hauling fees. This happens all the time, especially if your contract only includes the basics, and other costs aren't discussed before the project starts.

Common hidden costs

- Dirt hauling
- Electrical hook-up for pool equipment
- Fencing
- Landscaping
- Patio
- Drainage for yard or pool deck
- Retaining walls
- Tree removal
- Hitting ground water or rock during excavation

How to avoid hidden costs

The quote sheet you receive should disclose all potential costs and clearly specify **everything that is and is not included in the builder's scope of work**. Make sure you get *everything* in writing.

➤ Mistake #2: Starting the project with unknown costs

This is different than surprise costs popping up during a project.

Unknown costs are those you know will arise without knowing their precise amounts.

Some pool builders will only give you square footage prices for patios or retaining walls, knowing full well you won't actually know the final cost for those options. **These builders are more interested in closing the sale than keeping to their customer's budget.**

If I see that your backyard will need a three-foot-tall retaining wall, I can calculate it'll cost you around \$12,000. If I were a shady builder, I might tell you you'll need a wall at a price of \$35 per square face foot, which will cost "a few thousand dollars." This makes your cost look lower up front. But after your pool's installed, you get a \$12,000 bill for that wall. It happens all the time.

Get your walls, patios, fences, electrical hook-ups, and everything else you might need in writing before construction begins.

➤ Mistake #3: Not properly vetting your pool builder

I've already highlighted the importance of interviewing your builder and contacting their references.

If a pool builder can't or won't give you references, don't work with them. Ideally, you shouldn't have to ask your builder for references. **Our company reference list has information on over 1,000 customers.** You're welcome and encouraged to call any of them.

If a builder tells you their customers won't share their contact information, it's also a red flag. Happy customers often want to tell others about their great experience.

➤ Mistake #4: Making decision solely based on price

It always baffles us when customers say they want super-low prices, great quality *and* great service. The reality is that **there are three switches** you can flip for any purchase: **good, fast, and cheap**. However, **you can only ever flip two of these three switches at any time**. Fast and cheap won't be good. Good and cheap won't be fast. And fast and good won't be cheap.

There will always be companies ready to install your pool for a lower price. Most of these companies competing primarily on price **will go out of business**. Price will always be an important part of your decision, but **if price is your first priority**, you may very well **sacrifice years of quality and durability to save a little money today**.

➤ Mistake #5: Focusing on the short term

Make your decisions based on how long you think you'll live in your home, not just on your circumstances today. **The wrong material and/or the wrong builder may well cost you more than you think you'll save**.

Let's say you get a vinyl liner pool, even though fiberglass better suits your needs. A vinyl liner pool might cost \$6,000 less to install than a fiberglass pool of the same size. But over 25 years you'll spend about \$8,000 more on liner replacements than it would've cost you to install a fiberglass pool in the first place.

➤ Mistake #6: Buying based on installation time frame

Many pool shoppers will discover their **preferred builders can't start their project right away** because the builder's already booked many other projects for the year. **This problem became more widespread than we've ever seen during the COVID-19 lockdowns**, and **many reputable builders are now booked solid for months**, if not for the entire year.

Don't trust your backyard to a company that promises rapid installation. Quite frankly, **a pool builder without a backlog is suspicious in 2023**. Pool builders in high demand tend to be quality contractors -- that's why they have so much work!

➤ Mistake #7: Not trusting your gut

You might be nearly ready to hire a pool builder after reading this ebook.

The more research you do, the more accurately you'll be able to identify the right builder, manufacturer, dealer, and so forth. But sometimes, you just have to trust your gut.

This might not be the most scientific approach, but I've seen people regret choosing against their gut instinct far too often to ignore its impact on your outcomes.

If your project runs into problems, you're ultimately dependent on the integrity of the people you've trusted to put a pool in your backyard. Make sure they're worthy of your trust!

CHAPTER 9: FINDING A REPUTABLE POOL CONTRACTOR

If you don't plan to install a pool yourself, this might be the most important chapter you'll read. You're going to entrust your backyard (and quite a bit of money) to a contractor who'll ultimately make or break the whole project.

We've worked or consulted with thousands of fiberglass pool customers around the world, so we've seen the good, the bad, and the ugly of our industry. Everything we've seen and experienced regarding installation contractors can be summed up simply:

Nothing makes up for a badly installed pool.



There are great contractors, terrible contractors, and all types of contractors in between. Review sites are full of horror stories about shady pool contractors.

Understanding the installation process will help you know what to ask your prospective contractors and how to find high-quality, reputable installation companies that won't cut corners, rush your project, or skip critical steps that would shore up your pool for long term quality durability.

There are **two key reasons people hire the wrong contractors: price and installation time.**

Cheaper and faster isn't always better. In fact, the cheapest, fastest quote is rarely going to create the best outcome. **Cheaper quotes often mean corners have been cut.** Shorter project timeline estimates are similar red flags. **Lower upfront costs often hide unexpected fees and expenses.** A speedy installation could saddle you with repair after repair over the years, all because your contractor wanted to wrap everything up a few days earlier.

The two-step process for finding a reputable pool builder

These guidelines will help you separate the wheat from the chaff, so to speak.

Step one: the interview

It's a good idea to have a conversation directly with prospective contractors, either on the phone, over Zoom, or in person. I recommend in-person or Zoom chats, so you can read body language and pick up on any discrepancies between the contractor's words and their movements.

Here's a good list of questions to help you vet your contractors:

Q: How many fiberglass pools have you installed?

A contractor who hasn't even installed 20 pools may not have enough experience to execute your project to the highest standards.

Q: How many pools did you install last year?

We use this question to set up the next one...

Q: Can I have a list of your references from last year?

If someone tells you they installed 12 pools last year, but their list of references only has six names on it, it may mean you've only got a 50% chance of success with that contractor.

Q: Have you ever made a mistake?

If they say no, the conversation should be over. Everyone screws up from time to time. You want to know how they've handled mistakes when they've happened.

Q: What was the biggest mistake you've made?

This question gives your contractor an opportunity to be open and honest. No one's perfect, but the best professionals (in any field) are those who can acknowledge and overcome their biggest mistakes.

Q: How did you handle that mistake, and can I call that customer?

If they dodge this one, they might not have been fully honest with their previous answers.

Q: Can you highlight three references for whom you made mistakes and fixed them?

Contact these people and ask them about their experiences.

Step two: calling references

Checking references can be time-consuming, but you might spend upwards of \$100,000 on your pool project. **The best way to ensure success is to make sure your contractor has been successful in the past** -- and the best way to see if your contractor is the real deal is to talk to previous customers.

- Ask old and new references about their current level of service.
- Ask about how their pool's held up over time.
- Contact references from jobs close to and far away from the contractor's place of business to see if (and/or how) distance and geography might affect their project outcomes.
- Contact references whose projects most closely resemble yours. If you want a paver patio, for example, call someone who had a paver patio installed.
- Contact ant "problem" customers the contractor mentioned.
- Ask references what they most and least liked about the contractor's work.
- Ask references if they'd change anything if they could do it all over again.

This screening process should give you a fairly good sense -- either good or bad -- of the contractors you're considering. Your budget, however, might pull against your instincts.

Our advice, after working with thousands of people, is pretty simple: **following your pocket-book is a roll of the dice on a huge long-term property investment.** Far too many people have lost that gamble.

We recommend listening to your instincts when selecting your pool contractor.

Waiting a bit longer and paying a bit more up front can be well worth it over the long run, if the end result is a beautiful pool that stands the test of time without costly and unexpected repairs.

We train every River Pools dealer, installer, and franchisee to follow the River Pools Way, and **we invest a lot of time and resources into ensuring everyone who flies the River Pools flag follows the high standards we've set for ourselves.**

Want to speak to one of our dealers? They'd love to help answer your questions.

[Click here to request a pricing quote and we'll get this process started!](#)

CHAPTER 10: WHICH MANUFACTURER MAKES THE BEST FIBERGLASS POOLS?

This section might give you with **more information about the fiberglass pools manufacturing process than you'll find anywhere else in the world.**

We manufacture the pools we install, and we want you to be completely informed.

You'll get real scientific data, which we hope will empower you to make the best decision for your project.

We'll show you, step by step, exactly how our pools are manufactured. We decided to expand into manufacturing from our roots as pool installers for several reasons...



6 reasons we decided to manufacture our own fiberglass pools

1. Defective shells from other manufacturers hurt our reputation

As installers, we knew we were only as good as the pool shells we installed.

Unfortunately, we had no real control over the quality of the shells we received from our manufacturing partners. Whenever we wound up with a subpar shell, we did everything possible to make it work. This kept customers happy, but it complicated our projects and ate into our margins, making it harder to grow.

Generally speaking, the quality of fiberglass pool shells is better across the board than it was when we started. However, any builder is only as good as the pool they can install... and there are still builders who find themselves in the same situation we faced years ago.

2. We needed more control over our outcomes

Eventually, we decided the only way to become the best fiberglass pool company was to take control over every part of the pool supply chain, from the factory to the customer's backyard.

3. We wanted pools we'd be proud to put in our own backyards

We'd talked to thousands of prospective clients before manufacturing our first shell. This face time helped us build a deep understanding of what sizes, shapes, features, and colors our buyers really wanted.

One of the things we love most about our integrated business is the freedom we now have to design our own pools. Every pool design needs to pass the "backyard" test -- if we wouldn't love it in our own backyards, it goes back to the drawing board. Launching a new pool model sometimes feels like the birth of a new child, and we've got a growing family of models with a bit of something for everyone.

4. We wanted pools that were easy to install

Before manufacturing our first shell, we'd already installed over 1,000 fiberglass pools from most of the country's largest fiberglass pool manufacturers.

We'd also been named one of the Top 50 Pool Builders in America by Pool and Spa News.

We understood great pools from the installer's perspective. We also knew we could leverage that experience to produce the highest-quality fiberglass pool shells the market had ever seen... so that's what we set out to do.

5. We wanted to reach more people

Before opening our manufacturing facility, we were a regional pool builder with an international brand. For years, we'd received a flood of customer requests we just couldn't fulfill, because they lived too far from our headquarters in Virginia.

Manufacturing fiberglass pool shells gave us a way to work with more of these customers across the country, thanks to our growing nationwide network of authorized dealers.

We now have 15 locations, and add more every year. Many franchisees or dealers begin their relationship with River Pools as customers, experiencing our commitments to quality and integrity first-hand before raising our banner in their own cities.

6. We believe in the benefits of fiberglass pools

We've installed other types of pools in the past. We've stuck with fiberglass for a reason.

Our fiberglass pool customers wouldn't stop raving about their pools.

Sky-high customer satisfaction, combined with the relative ease of fiberglass installations, convinced us to drop vinyl and concrete and go all in on fiberglass shells.

We're excited to share our manufacturing process with you. If you'd like to see how everything comes together on the factory floor, you can check out our detailed video guide: [Advanced Fiberglass Pool Manufacturing, the River Pools Way.](#)

Advanced Manufacturing



The fiberglass pool shell is the foundation of every River Pools project. All River Pools fiberglass shells are sold with a limited lifetime structural warranty and 15-year finish warranty.

There are six layers in every River Pools shell:

1. **Gel coat surface layer**
2. **Vinyl ester resin for corrosion resistance**
3. **Chopped fiberglass for strength**
4. **Hand laid woven roving at stress points**
5. **Structural comb supports**
6. **Chopped fiberglass strength layer**



1. Gel Coat Surface Layer
2. Vinyl Ester Resin for Corrosion Resistance
3. Chopped Fiberglass For Strength
4. Hand Laid Woven Roving at Stress Points
5. Structural Comb Supports
6. Chopped Fiberglass Strength Layer



Limited Lifetime Structural Warranty and 15-Year Finish Warranty

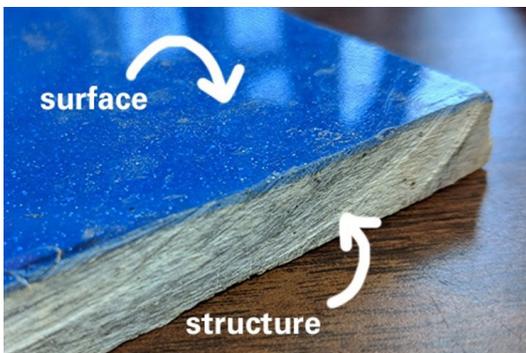
The River Pools Way utilizes **cutting-edge materials** and the **latest manufacturing best practices** to deliver **the strongest and most durable fiberglass pool.**

The River Pools way works because of a process called **polymerization**, which **binds materials together at the molecular level**, creating a “web” of tightly connected materials. As molecules develop more connections, they create a stronger and more corrosion-resistant web of material throughout the shell.

Our manufacturing process goes a step further and **fuses all six layers together** into one incredibly strong and durable composite structure.

Layers in a River Pools shell

1. Gelcoat surface layer



The **visible surface** of every River Pools fiberglass pool shell is a thin layer of gelcoat.

Fiberglass pools are actually built from the inside out, so this **gelcoat is the first layer produced** during the manufacturing process. **Skilled technicians spray our gelcoat blend evenly** to provide a beautiful finish and optimum coverage.

Fiberglass pools are considered easier to maintain than other pools. This is because a fiberglass shell's **gelcoat surface is relatively non-porous**, which makes the pool algae-resistant.

We make sure **every gelcoat is properly cured to ensure its durability.**

We go to great lengths to achieve maximum polymerization across all layers of our pool shell. If we've cross-linked as many polymer chains as possible, the shell will fully cure at its true maximum strength and durability. **Temperature drives the cross-linking process.**

In less scientific terms: our pool shells are really strong. In more scientific terms, **here's why they're so strong...**

Maximizing cross-linking in our gelcoat:

Check mold temperature with a temperature gun to ensure it's at least 77°F

Fiberglass pools are formed in molds.

We heat our pool shell molds to a minimum temperature of 77 degrees -- the ideal temperature for making composites -- before spraying gelcoat.

Heat gelcoat material to at least 77°F

Consistency is our friend. A well blended and properly heated drum of gelcoat helps us produce the strongest possible pool shell.

Consistent temperature and humidity throughout the factory

Our factory is climate-controlled with state-of-the-art HVAC systems. Ambient air temperature can have a major impact on the final strength of a cured pool shell.

Specially blended catalyst

Gelcoats and other resins in our composites are blended with a **catalyst**, which **kick-starts polymerization**. We use **special catalyst blends** and carefully ensure **precise amounts of catalyst are mixed with the gelcoat during our spraying process**.

The ratio of catalyst to gelcoat is critical! Too much catalyst makes the gel set too quickly. If there's not enough catalyst, the gelcoat won't cure properly.

2. Vinyl ester resin (blister and corrosion resistance)

The **second layer** of our fiberglass pool shell is a layer of **vinyl ester chopped fiberglass**. Vinyl ester is a **premium resin** we use to **prevent osmotic blistering** -- an unwanted side effect of shoddy manufacturing that can cause gelcoat surfaces to form blisters and separate from this second layer.

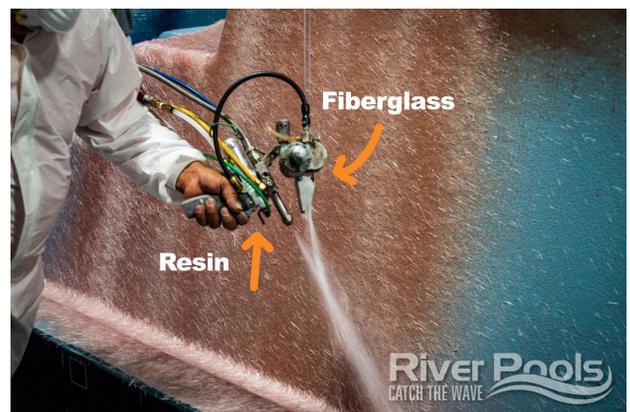
Vinyl ester resin prevents blistering by forming a watertight barrier.

There are many blended vinyl esters available to manufacturers. By law, a manufacturer only needs to use small amounts of vinyl ester to call a product "vinyl ester resin." Our vinyl ester is specially blended to produce the best blister protection available.

Our vinyl ester resin application process

Our vinyl ester layer also helps the gelcoat cure properly. As soon as the gelcoat sets, we apply this layer of **chopped fiberglass**, which **acts like a heated blanket for the gelcoat layer**.

Our manufacturing process uses the heat of each additional layer to drive the curing and cross-linking process in all previous layers. Everything works better together!



3. Chopped fiberglass for strength



After applying the gelcoat surface and adding vinyl ester for corrosion and blister resistance, we focus on building strength into the pool shell with chopped fiberglass. We apply this material with a “chopper gun” that cuts long strands of glass fiber into pieces about an inch long. The gun also sprays resin and catalyst onto the mold while it chops fiberglass. Once chopped and sprayed, we roll out the fiberglass layer to strengthen it and remove any potential air bubbles.

Application of chopped fiberglass

Chopped vs. hand-laid fiberglass

We've used both types of fiberglass layers.

Our experience has led us to use chopped fiberglass for several reasons:

- **Chopped glass has a perfect balance of flexibility and strength.**

Pool shells with hand-laid fiberglass tend to be too flexible. The shell needs to be strong enough to be lifted, transported, and set while holding its shape. Chopped fiberglass simply checks these boxes better than hand-laid fiberglass.

- **Our manufacturing team has the experience to lay chopped fiberglass properly.**

When using **chopped fiberglass**, a manufacturer **must have highly skilled technicians** working the chopper guns if they want consistent thickness throughout the layer. Hand-laid fiberglass isn't as demanding.

We have extremely high hiring and employment standards, and we treat our team very well. As a result, **many of our employees are highly skilled specialists who've worked in our factory for years. We weigh every pool shell and check cut-outs for quality control** to ensure our customers get shells we'd be proud to use in our own backyards.

4. Hand-laid woven fiberglass roving at stress



We reinforce areas subject to the most bending stresses -- primarily where the shell transitions from a flat surfaces (floors) to upright (walls) -- with a **layer of woven roving fiberglass** for additional strength.

5. Structural comb supports



Fiberglass is naturally flexible -- its tensile strength is orders of magnitude greater than concrete of similar size or width.

But sometimes, we just want it to stay put. We use **structural comb ribs and support layers** throughout our pool shells **to stiffen and strengthen certain areas.**

We use **structural comb supports under all steps, benches, and tanning ledges.** We also use **structural comb ribs along the side walls of the pool shell.**

Our **structural comb material adds incredible strength to our pool shells** when sandwiched between layers of fiberglass.

➤ 6. Final chopped fiberglass strength layer

We add **a final layer of chopped fiberglass for greater shell strength.** Heat from this outer layer helps us maximize cross-linking throughout the five previous layers so the shell can properly and fully cure.

We also reinforce the pool's lifting points (where we attach the shell to a crane so it can be moved) during the application of this last layer of fiberglass.

When it's cured, we remove the shell from its mold, trim and detail it, and put it on the back of a truck so we can get it installed in another happy customer's backyard.



What you need to know about fiberglass pool warranties

Fiberglass pool warranties might look the same to most pool buyers... but they're not.

A fiberglass pool shell is the single largest and most important piece of any pool installation project. We encourage everyone to **read the fine print in every warranty**, on any design, from any manufacturer you might want to buy from.

Questions to ask about fiberglass pool warranties:

- Is it transferable?
- Does warranty's language match whatever its name suggests?
- Who pays to drain your pool and replace water and chemicals if the structure fails?
- Are the company's warranties readily available online?

Fiberglass pool warranties come in twos

Fiberglass pool manufacturers typically offer **two warranties for each pool shell**: one covers the **structure of the shell**, and another covers its **surface**.

The **structural warranty typically remains active much longer**, but it's **usually straightforward** in other respects. Different manufacturers offer **different surface warranties** -- this is where **reading the fine print can really help you** over the long run.

Our Lifetime Structural Warranty

- Covers structural failures due to defects in workmanship or materials
- Is transferrable
- We cover costs of draining and bracing the pool if it requires covered repairs
- We also cover costs of refilling the pool and replacing its chemicals

Our 15-Year Surface Warranty

- Covers osmotic blisters for 15 years
- Is transferrable

[Click here to read our entire warranty!](#)

We hope this guide has given you the tools you need to make a sound decision.

We wish you the best of luck, and happy swimming!

[**CLICK HERE TO START YOUR POOL PROJECT TODAY!**](#)

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